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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,419	07/30/2001	Taylor R. Efland	TI-31306	1132

7590

07/08/2003

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EXAMINER

CAO, PHAT X

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/917,419

Applicant(s)

EFLAND ET AL.

Examiner

Phat X. Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 27-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 6-26 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams et al (US. 5,665,996).

Williams (Fig. 7A) discloses a semiconductor integrated circuit comprising: contact pads 76 located over active components and including electro-plated portions 76D of gold (column 6, lines 1-3); and the position of the pads selected to provide control and distribution of power to the active components below the pads and to minimize the distance for power delivery between a selected pad 76 and one or more corresponding active components (column 3, lines 26-30).

Williams further discloses a metallization layer 73 between the contact pads 76 and the active components, the metallization layer 73 patterned and vertically coupled upward to the contact pads 76 and vertically coupled downward to the active components; and a wire bonded to the bonding pad 76 at a desired location for reducing the resistance of the active components

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(column 3, lines 26-30). Therefore, the maximizes dissipation of thermal energy would be inherently released by the active components.

Williams does not specifically disclose that the contact pads 76 function as stress absorbing (claim 1). However, when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Therefore, the contact pads 76 would inherently function as stress absorbing because they are made of nickel which is the same material as claimed contact pads.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato (US. 5,739,587).

Sato (Fig. 13) discloses a semiconductor device comprising multilayer contact pads 100 positioned over active components; and at least one metallization layer 110 between the contact pads 100 and the active components, the metallization layer 110 patterned and vertically coupled upward to the contact pads 100 and vertically coupled downward to the active components.

Sato does not specifically disclose that the contact pads 100 function as stress absorbing (claim 1). However, when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent. Therefore, the contact pads 100 would inherently function as stress absorbing because they are made of aluminum which is the same material as claimed contact pads. Regarding process limitation (electro-plated), this would not carry patentable weight in a claim drawn to structure because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US. 5, 739,587).

Sato (Figs. 13-14) discloses a semiconductor integrated circuit comprising: a laterally organized power transistor; an array of power supply contact pads 100 distributed over the power transistor; the contact pads 100 characterized by multiple metal layers including a thin top layer 102; means for providing a distributed, predominantly vertical current flow from the contact pads 100 to the transistor; and means for connecting a voltage to each of the contact pads.

Sato does not disclose a power source applied to each of the contact pads. However, it would have been obvious to apply a power source to each of the contact pads 100 of Sato in order to supply a voltage source to the source/drain of the power transistor. Regarding process limitation (electro-plated), this would not carry patentable weight in a claim drawn to structure because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al (US. 5,665,996).

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Williams (Fig. 7A) discloses a semiconductor integrated circuit comprising: a laterally organized power transistor; an array of contact pads 76 distributed over the power transistor, the contact pads 76 characterized by multiple metal layers including an electro-plated gold layer 76D; and means for providing a distributed, predominantly vertical current flow from the contact pads to the transistor.

Williams does not disclose a power source applied to each of the contact pads 76.

However, it would have been obvious to apply a power source to each of the contact pads 76 of Williams in order to supply a voltage source to the source/drain of the power transistor.

Allowable Subject Matter

7. Claims 6-26 are allowed.

Response to Arguments

8. Applicant argues that Williams does not teach the metallization layer of the amended claims.

This argument is not persuasive because William's Fig. 7A clearly discloses the metallization layer 73 having the structure of the amended claims.

Applicant argues that Sato's contact pads do not include a layer formed by electro-plated process.

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This argument is not persuasive because the process limitation of “electro-plated” does not lend patentability to the claims drawn to the structure. However, William’s Fig. 7A does teach the contact pads including a gold layer 76D formed by electro-plated process.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phat X. Cao whose telephone number is (703) 308-4917. The Examiner can normally be reached on Monday through Thursday. If attempts to reach the Examiner by

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telephone are unsuccessfully, the Examiner's supervisor, Wael Fahmy, can be reached on (703) 308-4918.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. Group 2800 fax number is (703) 308-7722 or (703) 308-7724.

PC
July 3, 2003


PHAT X. CAO
PRIMARY EXAMINER

The United States Patent and Trademark Office has changed certain mailing addresses!

Effective May 1, 2003

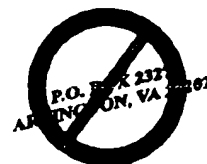
Use the address provided in this flyer after May 1, 2003 for any correspondence with the United States Patent and Trademark Office (USPTO) in patent-related matters to organizations reporting to the Commissioner for Patents.

DO NOT USE the Washington DC 20231 and P.O. Box 2327 Arlington, VA 22202 addresses after May 1, 2003 for **any correspondence** with the USPTO even if these old addresses are indicated in the accompanying Office action or Notice or in any other action, notice, material, form, instruction or *other* information.

Correspondence in patent-related matters to organizations reporting to the Commissioner for Patents must now be addressed to:



**Commissioner for Patents
P.O. Box 1450
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Special Mail Stop designations to replace Special Box designations

Also effective May 1, 2003, the USPTO is changing the special Box designations for **Patents and Trademarks** to corresponding Mail Stop designations (e.g., "Box 4" will now be "Mail Stop 4").

For further information, see *Correspondence with the United States Patent and Trademark Office*, 68 *Fed. Reg.* 14332 (March 25, 2003). A copy of the *Federal Register* notice is available on the USPTO's web site at <http://www.uspto.gov/web/menu/current.html#register>

A listing of specific USPTO mailing addresses (See Patents – specific) will be available on the USPTO's web site on April 15, 2003 at <http://www.uspto.gov/main/contacts.htm>

Persons filing correspondence with the Office should check the rules of practice, the Official Gazette, or the Office's Internet Web site (www.uspto.gov) to determine the appropriate address and Mail Stop Designation (if applicable) for all correspondence being delivered to the USPTO via the United States Postal Service (USPS).

Questions regarding the content of this flyer should be directed to the Inventor Assistance Center at (703) 308-4357 or toll-free at 1-800-786-9199.

REVISED AMENDMENT PRACTICE: 37 CFR 1.121 CHANGED COMPLIANCE IS MANDATORY - Effective Date: July 30, 2003

All amendments filed on or after the effective date noted above must comply with revised 37 CFR 1.121. See Final Rule: **Changes To Implement Electronic Maintenance of Official Patent Application Records** (68 Fed. Reg. 38611 (June 30, 2003)), posted on the Office's website at: <http://www.uspto.gov/web/patents/ifw/> with related information. The amendment practice set forth in revised 37 CFR 1.121, and described below, replaces the voluntary revised amendment format available to applicants since February 2003. **NOTE: STRICT COMPLIANCE WITH THE REVISED 37 CFR 1.121 IS REQUIRED AS OF THE EFFECTIVE DATE (July 30, 2003).** The Office will notify applicants of amendments that are not accepted because they do not comply with revised 37 CFR 1.121 via a Notice of Non-Compliant Amendment. See MPEP 714.03 (Rev. 1, Feb. 2003). The non-compliant section(s) will have to be corrected and the entire corrected section(s) resubmitted within a set period.

Bold underlined italic font has been used below to highlight the major differences between the revised 37 CFR 1.121 and the voluntary revised amendment format that applicants could use since February, 2003.

Note: The amendment practice for reissues and reexamination proceedings, except for drawings, has not changed.

REVISED AMENDMENT PRACTICE

I. Begin each section of an amendment document on a separate sheet:

Each section of an amendment document (e.g., Specification Amendments, Claim Amendments, Drawing Amendments, and Remarks) must begin on a separate sheet. Starting each separate section on a new page will facilitate the process of separately indexing and scanning each section of an amendment document for placement in an image file wrapper.

II. Two versions of amended part(s) no longer required:

37 CFR 1.121 has been revised to **no longer require** two versions (a clean version and a marked up version) of each replacement paragraph or section, or amended claim. Note, however, the requirements for a clean version and a marked up version for **substitute specifications** under 37 CFR 1.125 have been retained.

A) Amendments to the claims:

Each amendment document that includes a change to an existing claim, cancellation of a claim or submission of a new claim, **must include a complete listing** of all claims in the application. After each claim number in the listing, the status must be indicated in a parenthetical expression, and **the text of each pending claim** (with markings to show **current** changes) must be presented. The claims in the listing will replace all prior claims in the application.

- (1) The current status of all of the claims in the application, including any previously canceled, not entered or withdrawn claims, must be given in a parenthetical expression following the claim number using only one of the following seven status identifiers: (original), (currently amended), (canceled), (withdrawn), (new), **(previously presented) and (not entered)**. The text of all pending claims, **including withdrawn claims**, must be submitted each time any claim is amended. Canceled **and not entered** claims must be indicated by only the claim number and status, without presenting the text of the claims.
- (2) The text of all claims **being currently amended** must be presented in the claim listing with markings to indicate the changes that have been made relative to the immediate prior version. The changes in any amended claim must be shown by underlining (for added matter) or strikethrough (for deleted matter) with 2 exceptions: (1) for **deletion of five characters or fewer, double brackets may be used (e.g., [[error]]); and (2) if strikethrough cannot be easily perceived (e.g., deletion of the number "4" or certain punctuation marks), double brackets must be used (e.g., [[4]]).** **As an alternative to using double brackets, however, extra portions of text may be included before and after text being deleted, all in strikethrough, followed by including and underlining the extra text with the desired change (e.g., number 4 as number 14 as).** An accompanying clean version is not required and should not be presented. Only claims of the status "currently amended," and "withdrawn" that are being amended, may include markings.
- (3) The text of pending claims **not being currently amended, including withdrawn claims**, must be presented in the claim listing in clean version, i.e., without any markings. Any claim text presented in clean version will constitute an assertion that it has not been changed relative to the immediate prior version except to omit markings that may have been present in the immediate prior version of the claims.

- (4) A claim being canceled must be listed in the claim listing with the status identifier "canceled"; the text of the claim must not be presented. Providing an instruction to cancel is optional.
- (5) Any claims added by amendment must be presented in the claim listing with the status identifier "(new)"; the text of the claim must not be underlined.
- (6) All of the claims in the claim listing must be presented in ascending numerical order. Consecutive canceled, or not entered, claims may be aggregated into one statement (e.g., Claims 1 – 5 (canceled)).

Example of listing of claims (use of the word "claim" before the claim number is optional):

Claims 1-5 (canceled)

Claim 6 (previously presented): A bucket with a handle.

Claim 7 (withdrawn): A handle comprising an elongated wire.

Claim 8 (withdrawn): The handle of claim 7 further comprising a plastic grip.

Claim 9 (currently amended): A bucket with a ~~green~~ blue handle.

Claim 10 (original): The bucket of claim 9 wherein the handle is made of wood.

Claim 11 (canceled)

Claim 12 (not entered)

Claim 13 (new): A bucket with plastic sides and bottom.

B) Amendments to the specification:

Amendments to the specification, including the abstract, must be made by presenting a replacement paragraph or section or abstract marked up to show changes made relative to the immediate prior version. An accompanying clean version is not required and should not be presented. Newly added paragraphs or sections, including a new abstract (instead of a replacement abstract), must not be underlined. A replacement or new abstract must be submitted on a separate sheet, 37 CFR 1.72. If a substitute specification is being submitted to incorporate extensive amendments, both a clean version (which will be entered) and a marked up version must be submitted as per 37 CFR 1.125.

The changes in any replacement paragraph or section, or substitute specification must be shown by underlining (for added matter) or strikethrough (for deleted matter) with 2 exceptions: (1) for deletion of five characters or fewer, double brackets may be used (e.g., [[eroor]]); and (2) if strikethrough cannot be easily perceived (e.g., deletion of the number "4" or certain punctuation marks), double brackets must be used (e.g., [[4]]). As an alternative to using double brackets, however, extra portions of text may be included before and after text being deleted, all in strikethrough, followed by including and underlining the extra text with the desired change (e.g., number 4 as number 14 as)

C) Amendments to drawing figures:

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment, and may be accompanied by a marked-up copy of one or more of the figures being amended, with annotations. Any replacement drawing sheet must be identified in the top margin as "Replacement Sheet" and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. Any marked-up (annotated) copy showing changes must be labeled "Annotated Sheet Showing Changes" and accompany the replacement sheet as an appendix to the amendment.

The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Questions regarding the submission of amendments pursuant to the revised practice set forth in this flyer should be directed to: Elizabeth Dougherty or Gena Jones, Legal Advisors, or Joe Narcavage, Senior Special Projects Examiner, Office of Patent Legal Administration; by e-mail to patent.practice@uspto.gov or by phone at (703) 305-1616.

CP4

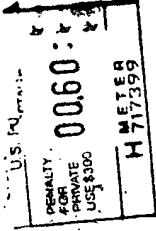
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